# Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of	)	
Revision of the Commission's Rules to	)	CC Docket No. 94-102
Ensure Compatibility with Enhanced	)	
911 Emergency Calling Systems	)	
	)	
Wireless E911 Phase II Implementation	)	
Plan of Nextel Partners, Inc.	)	

## NEXTEL PARTNERS, INC. PHASE I AND PHASE II E911 QUARTERLY REPORT May 2, 2005

To: Chief, Wireless Telecommunications Bureau Chief, Enforcement Bureau

## **INTRODUCTION**

Pursuant to the October 12, 2001 Order of the Federal Communications Commission ("Commission" or "FCC") in CC Docket No. 94-102, Nextel Partners, Inc. ("Nextel Partners") respectfully submits this Enhanced 911 ("E911") Quarterly Report on its implementation of Phase I and Phase II E911.

Nextel Partners continues to devote substantial resources to E911 and has deployed 303 Public Safety Answering Points ("PSAPs") with Phase II E911 service since it achieved its first Phase II benchmark per the Nextel Waiver Order.<sup>2</sup> During this same period, Nextel Partners brought its total Phase I deployments to 605 PSAPs. Since its February 1, 2005 Quarterly Report, Nextel Partners has deployed an additional 43 PSAPs with E911 Phase II

<sup>&</sup>lt;sup>1</sup> In the Matter of Revision of the Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems, Wireless E911 Phase II Implementation Plan of Nextel Communications, Inc., Order, 16 FCC Rcd. 18277 (2001) ("Nextel Waiver Order").

<sup>&</sup>lt;sup>2</sup> Per the Nextel Waiver Order, Nextel Partners was required to begin selling and activating A-GPS capable handsets on October 1, 2002.

service and an additional 30 PSAPs with Phase I service and continues to work toward its next benchmark – ensuring that 95% of all subscriber handsets in service are A-GPS capable. Nextel Partners continues to deploy valid requests for Phase I and Phase II service within the six-month window.

As demonstrated by these activities, Nextel Partners is committed to providing its customers and public safety officials with Phase II E911 as soon as possible. As Nextel Partners initially described in its August 2, 2004 Quarterly Report, however, a latent software defect in certain A-GPS handsets manufactured by Motorola, Inc. ("Motorola") and provided to Nextel Partners resulted in a malfunction of the E911 Phase II location capability in all of Nextel Partners' Phase II-compliant handsets as of the evening of July 17, 2004. Reestablishing these handsets' ability to generate and transmit Phase II information requires changes to both the Nextel Partners network and to each affected handset. Nextel Partners and Motorola have upgraded the network and are now addressing the second phase of the issue, which requires updating, or "reflashing," the software in affected A-GPS capable handsets currently in use.

Invalid Phase I and Phase II requests also remain an issue. Although Nextel Partners received no new invalid Phase I or Phase II requests since its February 1, 2005 E911 Quarterly Report to the Commission, to date, Nextel Partners has 23 outstanding Phase I invalid requests and 16 outstanding invalid Phase II requests. In addition, the total number of "no action" requests (*i.e.*, those requests that cannot be processed because Nextel Partners either has no sites in the PSAP jurisdiction or the current sites are currently routed to another

PSAP) has increased to 174.<sup>3</sup> The majority of these "no action" requests continue to be Phase I.

Herein, Nextel Partners provides an update on all relevant events impacting handset upgrades and network infrastructure necessary to enable Phase II E911 location capabilities, as well as a listing of all deployed and pending requests for Phase I and Phase II E911 service and the status of each request.

#### **BACKGROUND**

In its Waiver Request seeking an October 2002 Phase II E911 implementation date, Nextel Partners affirmed that it could not launch on October 1, 2001 because its integrated digital enhanced network ("iDEN") air interface, which is used by few other carriers and only on a regional basis, is supported by a single manufacturer—Motorola. Nextel Partners and Nextel Communications ("Nextel"), along with Motorola and the other vendors required to support E911, devoted substantial resources to develop, test, and install network hardware and software, and to develop, test and launch A-GPS capable iDEN handsets. Because of these complexities and the fact that no GPS capability existed for the iDEN platform, it was not technologically possible to develop an iDEN A-GPS handset capable of delivering FCC-compliant automatic location information ("ALI") prior to October 1, 2002.

Pursuant to the Nextel Waiver Order, in which the Commission noted that Nextel faced "special circumstances that affect its deployment of Phase II," the Commission imposed the following Phase II E911 implementation benchmarks:

<sup>&</sup>lt;sup>3</sup> Nextel Partners reported a total of 134 "no action" requests in its February 1, 2005 E911 Quarterly Report. *See* Nextel Partners Phase I and Phase II E911 Quarterly Report at 2 (Feb. 1, 2005).

<sup>&</sup>lt;sup>4</sup> Nextel Waiver Order at ¶ 19. The Commission also stated "it is reasonable to expect that Nextel might find it more difficult to meet the same schedule as carriers employing the more common air interfaces, because location technology vendors and equipment manufacturers will have substantial incentives to introduce ALI products first for those segments of the market with larger market share. In addition, iDEN is a proprietary

October 1, 2002: Begin selling and activating A-GPS-capable handsets and

ensure that at least one entry-level A-GPS-capable handset

model is available;

December 31, 2002: Ensure that at least 10% of all new handsets activated are A-

GPS-capable;<sup>5</sup>

December 1, 2003: Ensure that at least 50% of all new handsets activated are A-

GPS-capable;

December 1, 2004: Ensure that 100% of all new digital handsets activated are A-

GPS-capable;

December 31, 2005: 95% of all subscriber handsets in service are A-GPS-capable.<sup>6</sup>

To date, Nextel Partners has achieved its first three benchmarks, and, with *limited* exceptions, met the December 1, 2004, 100% activation requirement as well. Nextel

Motorola technology and, to the extent that a location technology requires new or modified handsets and network equipment, Nextel must rely on Motorola as a sole source provider." *Id.* The Commission uses the name "Nextel" to refer to both Nextel and Nextel Partners.

<sup>&</sup>lt;sup>5</sup> When describing wireless carriers' reporting methodologies, the Commission stated that "one reasonable methodology to show compliance with the approved plan would be for Nextel Partners to demonstrate that it has complied with the required fractional percentage figures during the period beginning at the date on which that percentage takes effect and ending at the date of the next benchmark. Thus, for the 10 percent benchmark, Nextel Partners would demonstrate that at least 10 percent of the new handsets it activated during the period between December 31, 2002 and November 30, 2003 were A-GPS-capable." Nextel Waiver Order at ¶ 37.

<sup>&</sup>lt;sup>6</sup> Nextel Waiver Order at ¶ 37. It is only this final benchmark, that 95% of Nextel's handsets in service be A-GPS capable by December 31, 2005, that the Commission has not extended since 2000. See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Fourth Memorandum Opinion and Order, 15 FCC Rcd. 17442 (2000). Other benchmark deadlines for large carriers employing a handset-based E911 Phase II solution have been waived by some amount over the past several years. See, e.g., Nextel Waiver Order (establishing new interim benchmarks for Nextel, but retaining the December 31, 2005, 95% penetration benchmark); Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Order, 18 FCC Rcd. 12543 (2003) (granting a 6-month extension to Sprint to comply with the 100% activation deadline). The Commission noted in 1999 that an admittedly optimistic estimate found that with an annual churn of 24% per year (i.e., 2% per month), and with high projections of new sales and retrofits, 100% of handsets would be ALI-capable within three years, "without extraordinary measures being taken by carriers." The Commission also cited another report estimating 25.63% churn per year leading only to a 73% penetration level over four years. Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Third Report and Order, 14 FCC Rcd 17388 at ¶ 50 (1999). Despite the fact that its assumptions were incorrect as to Nextel, since 2000, the Commission has retained the final benchmark date, even as it has waived interim deadlines due to the demonstrated hardships that carriers have faced in deploying A-GPS capable handsets.

<sup>&</sup>lt;sup>7</sup> On October 1, 2002, Nextel Partners launched its first A-GPS handset and turned on its first Phase II PSAP, thus fulfilling its first benchmark. In February 2004, Nextel Partners reported that 10.4% of all new activations between December 31, 2002 and November 30, 2003, were A-GPS-capable, thus fulfilling its second benchmark. In February 2005, Nextel Partners reported that it had exceeded its third benchmark of ensuring

Partners continues to deploy E911 service at a rapid pace. However, myriad issues including inadequate funding at local, state and federal levels, prevent the vast majority of PSAPs from receiving and using a caller's latitude and longitude information and, given the status quo, most PSAPs likely will not be ready in the near future.

#### **DISCUSSION**

#### A. A-GPS Capable Handsets

Following the launch of its first A-GPS capable handset, the i88s, on October 1, 2002, in compliance with its first Phase II handset deployment benchmark, Nextel Partners has continued to introduce new A-GPS handsets, while phasing out non-A-GPS handsets, to drive penetration of location functionalities into its subscriber base. As of today, all new handsets Nextel Partners offers for sale are A-GPS capable.

Nextel Partners' complete A-GPS capable handset portfolio includes the following models: i58s, i88s, i205, i305, i530, i710, i730, i733, i830, the i860 camera phone and the eleven i736 NASCAR Nextel Cup series handsets, and its newest model, the BlackBerry 7520, which was available for purchase as of December 1, 2004. Nextel Partners is actively marketing these handsets' location capabilities and taking steps above and beyond relying on customer churn to put these A-GPS compatible phones into the hands of its users.

that at least 50% of all new handsets activated between December 1, 2003 and November 30, 2004 were A-GPS capable.

<sup>&</sup>lt;sup>8</sup> Due to the BlackBerry 7510 issue Nextel Partners noted in its November 1, 2004 and February 1, 2005 reports and limited continued activations by dealers who owned and controlled non-A-GPS capable handsets, Nextel Partners activated a *de minimis* number of non-A-GPS capable handsets. With the exception of the limited remaining inventory of BlackBerry model 7510 units, Nextel Partners' policy has been not to activate any new non-A-GPS units after December 1, 2004.

<sup>&</sup>lt;sup>9</sup> Nextel markets ten NASCAR Nextel Cup Series Driver Phones, each featuring the number and unique design, colors, and signature of a particular driver. The lone NASCAR Nextel Cup Series Phone displays a checkered flag and an enlarged NASCAR Nextel Cup Series logo. Collectively, these handsets share the Motorola i736 model name.

The FCC requires that handset-based Phase II solutions provide the location of wireless calls within 50 meters for 67 percent of calls and within 150 meters for 95 percent of calls. Based on the guidelines provided by the FCC's Office of Engineering and Technology, Nextel Partners—via an independent third-party consultant—completed its accuracy testing prior to launching and met the Commission's standards.

#### B. A-GPS Handset Issue

On July 19, 2004, Nextel Partners' sole handset vendor, Motorola, notified Nextel Partners of a problem affecting Motorola's i205, i305, i530, i710, i730, i733, i736, and i830 handsets. A latent problem in these phones' software rendered all A-GPS services unusable as of midnight, Greenwich Mean Time, July 18, 2004. To ensure that the A-GPS software problem did not cause 911 calls from those particular handsets to drop, Nextel Partners temporarily disabled the network component of its Phase II E911 A-GPS service, thus transmitting to PSAPs the caller's voice, nearest cell site location, and call-back number, *i.e.*, Phase I E911. Nextel immediately informed the Commission and all of its Phase II-deployed PSAPs of this problem and of the need to temporarily limit Nextel's E911 functionality to Phase I. In addition, all PSAPs, currently deploying Phase II, were contacted by July 21, 2004 and informed of the situation and the steps Nextel Partners was taking to rectify the issue.

The permanent solution to this A-GPS problem requires a two-part fix. The first part is an upgrade to the Nextel Partners network to enable the transmission of latitude and longitude to Phase II deployed PSAPs. This network upgrade was successfully deployed in the network on July 25, 2004. The network upgrade noted above ensures that Nextel

<sup>10</sup> 47 C.F.R. § 20.18(h)(2). *See also*, "Guidelines for Testing and Verifying the Accuracy of Wireless E911

Location Systems," OET BULLETIN No. 71 (April 12, 2000).

Partners' network is capable of identifying whether a 911 call is being placed from a handset updated with the new software, or from a non-updated phone. If a call is placed from an updated handset, that handset will automatically calculate its GPS location and Nextel Partners' network will transmit E911 Phase II location information (assuming the PSAP is capable of receiving Phase II information) to that PSAP. If a 911 call is placed from a handset without the updated software, the handset will not attempt a GPS fix so Nextel Partners will transmit Phase I information to the PSAP.

The second part of the solution requires updating the Motorola software in the impacted handsets, including those already in customers' hands, as well as those in the inventories of Nextel Partners and Motorola. Motorola quickly developed software that addresses the A-GPS issue in every affected model. All of Nextel Partners' stores and service centers are set up to reflash customer handsets, and, as a matter of course, whenever a customer brings a handset in for any reason, Nextel Partners' updates its software at no cost to the customer. Nextel Partners is also working with independent dealerships, Motorola and customers to encourage handsets to be reflashed in an expeditious manner and has a dedicated upgrade team focused exclusively on servicing E911 handset upgrades. For example, Nextel Partners has provided Motorola with a list of subscribers that have not had their handsets updated. Motorola continues to issue a CD-ROM and data cable to these subscribers so that they can reflash their handset at their home or office. We are also proactively calling customers with older handsets through our CLC program and offering

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<sup>&</sup>lt;sup>11</sup> Importantly, the network changes required to differentiate between the handsets with old versus new software has required that Nextel also upgrade the software in its i58 and i88 A-GPS handsets even though they were not directly impacted by the A-GPS software glitch.

<sup>&</sup>lt;sup>12</sup> Because the GPS software glitch causes the handset to shut down and automatically reboot upon achieving a GPS fix, the handsets without the updated software cannot be allowed to generate a GPS fix. Doing so would cause the 911 call to terminate at the moment GPS location information is generated.

even more attractive upgrades. In addition, we are heavily subsidizing our handset upgrades to make it more attractive for an existing customer to upgrade to E911 compliant phones.

## C. Phase I Requests

With respect to the Commission's requirement that Nextel Partners provide

"information on all pending Phase I and Phase II requests," Nextel Partners has attached an

Appendix listing all of its 50 pending Phase I requests and their current status. For each of
the on-going Phase I deployment efforts, the Appendix provides, as required by the

Commission, the master PSAP registry identification number ("PSAP ID"), PSAP name,

PSAP state, PSAP county, request date, whether the request is valid, a projected deployment
date, reasons hindering deployment within the first six months of a PSAP's request and
comments. 15

The proposed deployment dates in the <u>Appendix</u> are projected launch dates, which Nextel Partners and the relevant PSAP are striving to meet. Nextel Partners is in contact with each of these PSAPs and is working to deploy Phase I E911 as soon as possible. Nextel Partners has fully deployed Phase I E911 service with 605 PSAPs, which are listed in the <u>Appendix</u>. With regard to its Phase I deployment efforts, Nextel Partners reiterates herein that in some cases Phase I E911 deployments, similar to Phase II deployments, continue to be complicated by a number of factors – many of which are outside of Nextel Partners' control.

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<sup>&</sup>lt;sup>13</sup> See Nextel Waiver Order at ¶ 32.

<sup>&</sup>lt;sup>14</sup> On June 6, 2003 the Commission released a Public Notice setting forth uniform requirements governing the Appendix format in which carriers submit Phase I and Phase II deployment information with each Quarterly Report. Per these requirements, Nextel Partners has attached an <u>Appendix</u> listing all of its E911 deployments. See Public Notice, *Wireless Telecommunications Bureau Standardizes Carrier Reporting on Wireless E911 Implementation*, CC Docket No. 94-102, rel. June 6, 2003.

<sup>&</sup>lt;sup>20</sup> In some cases there are delays caused by technology issues. Such delays do not necessarily mean that the PSAP or Nextel Partners is not "ready" for Phase I service. Rather, it often means there are issues involving incompatible technologies between Nextel Partners, the LEC and/or the PSAP.

For example, among other things, trunks must be ordered from local exchange carriers to route traffic from Nextel to the PSAP. Even if the trunks are timely provisioned, they still must be tested, and in the event of a failure, can take as long as 90 days to be reprovisioned.

## D. Phase II Requests

At the same time Nextel Partners is deploying Phase I, it continues to deploy Phase II at those PSAPs capable of receiving and using the specific location information transmitted via Nextel Partners' Phase II solution. <sup>16</sup> The <u>Appendix</u> lists every pending Phase II request and the Commission's required information including the PSAP ID, PSAP name, PSAP state, PSAP county, request date, whether the request is valid, a projected deployment date, reasons hindering deployment within the first six months of a PSAP's request and comments. Nextel Partners has 82 pending Phase II requests and has asked that each of these PSAPs provide the documentation required in the *Richardson Order* for determining the request's validity. <sup>17</sup>

Similar to Phase I deployments, the proposed Phase II deployment dates in the Appendix are projected launch dates, which Nextel Partners and the relevant PSAP are striving to meet. Nextel Partners reiterates that accomplishing such deployments is subject to numerous factors and parties outside of Nextel Partners' control; thus, Nextel Partners' deployment schedule establishes a goal toward which Nextel Partners will work. It is possible, however, that complexities may be encountered that could delay some PSAP deployments. Nextel Partners is in contact with each of these PSAPs and is working to deploy Phase II E911 as soon as possible within mutually agreed upon time frames. Nextel

<sup>&</sup>lt;sup>16</sup> Nextel Partners has available to PSAPs two different methodologies for transmitting Phase II information— Emergency Service Routing Keys ("ESRK") and Emergency Services Routing Digits ("ESRD").

<sup>&</sup>lt;sup>17</sup> See generally, Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Petition of City of Richardson, Texas, Order On Reconsideration, 17 FCC Rcd. 24282 (2002); see also Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Order on Reconsideration, 16 FCC Rcd. 18982 (2001).

Partners will continue to dedicate resources to maintain its roll out schedule to PSAPs that are capable of receiving and using location technology.

Since October 1, 2002, its first implementation benchmark, Nextel Partners has deployed Phase II service with 303 PSAPs, which are included in the Appendix. Nextel Partners remains actively engaged with PSAPs at multiple locations and anticipates deploying Phase II service in additional areas in the near future, including Minnesota, Iowa and Kentucky, consistent with mutually agreeable timeframes. Nextel Partners received a request from Maui County, Hawaii in February 2005 and we are actively pursuing deployment. Since this is the first request from the State of Hawaii, many challenges were presented to our deployment group, including new data links (for Phase 2 data) from the mainland to Oahu; interfacing with Verizon Hawaii and the newly confirmed Wireless E911 Board for the State of Hawaii. We are expecting to deploy, prior to the 6-month timeframe currently forecasted.

Despite successful Phase II deployments in numerous areas such as Arkansas, Virginia and Texas, a significant number of PSAPs throughout our licensed territory, are not ready to receive and utilize ALI because of factors some of which are outside a PSAP's direct control, *e.g.*, lack of local, state and federal funding as well as a lack of E911 coordination bodies. Given the status quo, the majority of the remaining PSAPs in our licensed territory likely will not be prepared to receive or use ALI in the foreseeable future. Therefore, despite Nextel Partners' efforts to meet the handset penetration goals, only a limited number of its subscribers will realize the benefits of Phase II deployment in the near future.

#### E. December 31, 2005 Benchmark

As first stated in its August 2, 2004, quarterly report, Nextel Partners may not meet the December 31, 2005, benchmark of 95% A-GPS handset penetration. After months of careful evaluation of customer trends, upgrade activity and continued low churn rates on Nextel Partners network, it has become evident that turning over nearly all of Nextel Partners' customers to an A-GPS enabled handset (despite having activated almost exclusively A-GPS handsets for more than a year) probably will not be achievable. The current software defect affecting all of Nextel Partners' A-GPS handsets has significantly exacerbated this situation for Nextel Partners, given that Nextel Partners must now reflash the software in handsets that it previously had counted toward achieving the December 31, 2005 benchmark. Nextel Partners will continue to follow up with additional information regarding its A-GPS handset penetration, however, Nextel Partners' continued success in providing high-quality services (demonstrated by its low 1.4% churn rate)<sup>18</sup> is preventing significant gains in A-GPS handset penetration.

#### **CONCLUSION**

As required in the Nextel Waiver Order, <sup>19</sup> Nextel Partners is providing this Quarterly Report to the Executive Directors and counsel of the Association of Public Safety Communications Officials-International, Inc. ("APCO"), the National Emergency Number Association ("NENA") and the National Association of State Nine One One Administrators ("NASNA"). Should any of these organizations or their individual PSAP members have questions or concerns about Nextel Partners' submission, Nextel Partners encourages them to

<sup>&</sup>lt;sup>18</sup> See Nextel Partners Press Release, "Nextel Partners Reports Record Results in First Quarter 2005," (Apr. 28, 2005).

<sup>&</sup>lt;sup>19</sup> Nextel Waiver Order at ¶ 32.

contact Peter Gaffney, at the number listed below, as soon as possible to facilitate rapid and efficient deployment of Nextel Partners' Phase I and Phase II E911 services.

Respectfully submitted,

**NEXTEL PARTNERS, INC.** 

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